# Compressor Rod Packing Vent
# Closed Vent System Assessment

**Unit Name and ID: LP Booster Compressor CVS-BV07H-CS-K145 (C-820)**

**Location: BV Nose 7H Production Facility**

## Step 1: Quantify the volume of rod pack vent flow ($C_n$):

$C_1$ – The compressor manufacturer has documented rod packing leakage rate (attached):

180 scf/hr * 24 = 4,320 SCF/DAY

## Step 2: Quantify the production flow volume from served equipment ($T_n$):

$T_1$ – Based on Maximum Water Production Forecast going to the water tanks the system will have a maximum rate of 2000 BWPD. Under this scenario (max rate) the system will have all flow going to the tanks (this is serial configuration) and outlet shut in to force all vapor space volume through the vapor control system. To convert the BWPD into SCF/DAY, use the following factor: 1 BBL = 5.6146 cubic feet:

2,000 BBL/DAY * 5.6146 CU FT/BBL = 11,229 SCF/DAY/TANK

The facility is designed for 20 total tanks:

11,229 * 20 = 224,580 SCF/DAY

## Step 3: Compressor Collection System (CCS) Sizing:

**CCS SCF/Day = $T_n$+$C_n$ = 4,320 + 224,580 = 228,900 SCF/DAY**

$T_n$ =SCF/Day of Storage Vessel, Separators(s), Production flow
$C_n$ = SCF/Day of Compressor Rod Packing Flow

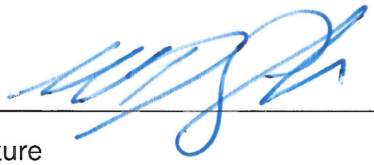
## Step 4: Confirm Capacity of Installed CCS:

Model: ARIEL JG4, 200 HP
Specifications-

- Suction Pressure: 15 PSIg
- Discharge Pressure: 120 PSIg
- Volume: 1,313,000 SCF/DAY

## Certification:

"I certify that the closed vent system design and capacity assessment was prepared under my direction or supervision. I further certify that the closed vent system design and capacity assessment was conducted and this report was prepared pursuant to the requirements of subpart 0000a of 40 CFR part 60. Based on my professional knowledge and experience, and inquiry of personnel involved in the assessment, the certification submitted herein is true, accurate, and complete. I am aware that there are penalties for knowingly submitting false information."



31 Oct 2017

Signature Date

Wm. Douglas Shaffer, PE

Print Name Certification Stamp: